



DEPARTMENT OF ENERGY

10 CFR Part 431

[EERE-2019-BT-TP-0027]

RIN 1904-AE80

Energy Conservation Program: Test Procedures for Commercial Equipment; Early Assessment Review: Packaged Terminal Air Conditioners and Packaged Terminal Heat Pumps

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Request for information (RFI).

SUMMARY: The U.S. Department of Energy (“DOE”) is undertaking an early assessment review to determine whether to proceed with a rulemaking to amend DOE’s test procedures for packaged terminal air conditioners (“PTACs”) and packaged terminal heat pumps (“PTHPs”) to adopt the most recent procedures referenced in the American Society of Heating, Refrigerating and Air-Conditioning Engineers (“ASHRAE”) Standard 90.1, “Energy Standard for Buildings Except Low-Rise Residential Buildings,” which are consistent with DOE’s current test procedures, unless there exists clear and convincing evidence supporting the adoption of alternate procedures. DOE welcomes written comments from the public on any subject within the scope of this document (including topics not raised in this RFI), as well as the submission of data and other relevant information concerning this early assessment review.

DATES: Written comments and information will be accepted on or before [INSERT DATE 75 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at <http://www.regulations.gov>. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE–2019–BT–TP–0027 and/or RIN 1904-AE80, by any of the following methods:

1. *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
2. *E-mail:* to PTACHP2019TP0027@ee.doe.gov. Include docket number EERE–2019–BT–TP–0027 in the subject line of the message.
3. *Postal Mail:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1445. If possible, please submit all items on a compact disc (“CD”), in which case it is not necessary to include printed copies.
4. *Hand Delivery/Courier:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L’Enfant Plaza, SW., Suite 600, Washington, DC, 20024. Telephone: (202) 287-1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No telefacsimiles (“faxes”) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section III of this document.

Docket: The docket for this activity, which includes *Federal Register* notices, comments, and other supporting documents/materials, is available for review at <http://www.regulations.gov>. All documents in the docket are listed in the <http://www.regulations.gov> index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

The docket web page can be found at <http://www.regulations.gov/docket?D=EERE-2019-BT-TP-0027>. The docket web page contains instructions on how to access all documents, including public comments, in the docket. See section III for information on how to submit comments through <http://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT: Mr. Bryan Berringer, U.S.

Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 586-0371. E-mail: ApplianceStandardsQuestions@ee.doe.gov.

Ms. Jennifer Tiedeman, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-6111. E-mail: Jennifer.Tiedeman@Hq.Doe.Gov.

For further information on how to submit a comment or review other public comments and the docket, contact the Appliance and Equipment Standards Program staff at (202) 287-1445 or by e-mail: ApplianceStandardsQuestions@ee.doe.gov.

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I. Introduction

DOE established an early assessment review process to conduct a more focused analysis of a specific set of facts or circumstances to allow DOE to determine that, based on statutory criteria, an amended test procedure is not warranted. In the case of PTACs and PTHPs, the purpose of the early assessment analysis is to assist DOE in determining whether to adopt industry standard ASHRAE 90.1-2019, which is consistent with DOE's current test procedures, or whether clear and convincing evidence exists that this standard would not meet the requirements in the Energy Policy and Conservation Act ("EPCA").¹ (42 USC 6314(a)(4)(B) and (C))² The purpose of the review is to limit the resources, from both DOE and stakeholders, committed to rulemakings that will not satisfy the requirements of EPCA. *See* 85 FR 8626, 8653-8654 (Feb. 14, 2020).

As part of the early assessment, DOE publishes an RFI in the *Federal Register*, announcing that DOE is soliciting comments, data and information on the question above. Based on the information received in response to the RFI and DOE's own

¹ All references to EPCA in this document refer to the statute as amended through America's Water Infrastructure Act of 2018, Public Law 115-270 (October 23, 2018).

² Under the Energy Policy and Conservation Act, as amended ("EPCA"), if the industry test procedures for PTACs and PTHPs are amended, DOE must amend its test procedures to be consistent with the amended industry test procedure unless there is clear and convincing evidence that to do so would not meet the EPCA requirements that DOE's test procedure: 1) be reasonably designed to measure energy efficiency or energy use during a representative average use cycle or period of use; and 2) not be unduly burdensome to conduct.

analysis, DOE will determine whether to proceed with a rulemaking for an amended test procedure.

If DOE makes an initial determination that clear and convincing evidence does not exist to justify procedures other than those consistent with the industry testing standards referenced in ASHRAE 90.1-2019, DOE would engage in a notice and comment rulemaking to adopt the ASHRAE 90.1-2019 testing standards, which are consistent with the current test procedures and which would satisfy the Department's 7-year-lookback test procedure review requirement under the statute (as discussed in section I.A of this document).

Conversely, if DOE makes an initial determination that clear and convincing evidence does exist to justify the consideration of test procedures other than those referenced in ASHRAE 90.1-2019, DOE would undertake the preliminary stages of a rulemaking to issue amended test procedures. Beginning such a rulemaking, however, would not preclude DOE from later making a determination that any such amended test procedures would not satisfy the requirements in EPCA, based upon the full suite of DOE's analyses. *Id.* at 85 FR 8654.

A. Authority

EPCA among other things authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. (42 U.S.C. 6291–6317) Title III, Part C³ of EPCA established the Energy Conservation Program for Certain Industrial Equipment. This equipment includes PTACs and PTHPs, the subjects of this document. (42 U.S.C. 6311(1)(I))

³ For editorial reasons, upon codification in the U.S. Code, Part C was redesignated Part A-1.

Under EPCA, DOE's energy conservation program consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of EPCA include definitions (42 U.S.C. 6311), test procedures (42 U.S.C. 6314), labeling provisions (42 U.S.C. 6315), energy conservation standards (42 U.S.C. 6313), and the authority to require information and reports from manufacturers. (42 U.S.C. 6316)

Federal energy efficiency requirements for covered equipment established under EPCA generally supersede State laws and regulations concerning energy conservation testing, labeling, and standards. (42 U.S.C. 6316(a) and (b); 42 U.S.C. 6297) DOE may, however, grant waivers of Federal preemption in limited instances for particular State laws or regulations, in accordance with the procedures and other provisions of EPCA. (42 U.S.C. 6316(b)(2)(D))

EPCA requires that the test procedures for PTACs and PTHPs be those generally accepted industry testing standards or rating procedures developed or recognized by the Air-Conditioning, Heating, and Refrigeration Institute ("AHRI") or by the American Society of Heating, Refrigerating and Air-Conditioning Engineers ("ASHRAE"), as referenced in ASHRAE Standard 90.1, "Energy Standard for Buildings Except Low-Rise Residential Buildings" ("ASHRAE Standard 90.1"). (42 U.S.C. 6314(a)(4)(A)) If such an industry testing standard is amended, DOE must update its test procedure to be consistent with the amended industry testing standard, unless DOE determines, by rule published in the *Federal Register* and supported by clear and convincing evidence, that the amended test procedure would not meet the requirements in 42 U.S.C. 6314(a)(2) and (3) that DOE's test procedure: (1) be reasonably designed to measure energy efficiency or energy use during a representative average use cycle or period of use; and (2) not be unduly burdensome to conduct. (42 U.S.C. 6314(a)(4)(B) and (C))

EPCA also requires that, at least once every 7 years, DOE evaluate test procedures for each type of covered equipment, including PTACs and PTHPs, to determine whether amended test procedures would more accurately or fully comply with the requirements for the test procedures to be reasonably designed to produce test results that reflect energy efficiency, energy use, and estimated operating costs during a representative average use cycle and to not be unduly burdensome to conduct. (42 U.S.C. 6314(a)(1)) DOE is publishing this RFI also to collect data and information to inform its decision to satisfy the 7-year-lookback review requirement.

B. Rulemaking History

DOE's current test procedures for PTACs and PTHPs are codified at 10 CFR 431.96. The test procedures were most recently amended after AHRI published AHRI Standard 310/380-2014, "Standard for Packaged Terminal Air-Conditioners and Heat Pumps" ("AHRI 310/380-2014") in February 2014. The 2014 version of the standard updated and superseded AHRI Standard 310/380-2004. In a final rule published on June 30, 2015, DOE amended the test procedures for PTACs and PTHPs. 80 FR 37136, 37136-37149. ("June 2015 Final Rule"). In the June 2015 Final Rule, DOE incorporated by reference certain sections of AHRI 310/380-2014. *Id.* at 80 FR 37148. DOE also incorporated by reference (1) American National Standard Institute ("ANSI")/ASHRAE Standard 16-1983 (RA2009), "Method of Testing for Rating Room Air Conditioners and Packaged Terminal Air Conditioners" ("ASHRAE Standard 16"); (2) ANSI/ASHRAE Standard 58-1986 (RA2009), "Method of Testing for Rating Room Air Conditioner and Packaged Terminal Air Conditioner Heating Capacity" ("ASHRAE Standard 58"); and (3) ANSI/ASHRAE Standard 37-2009, "Methods of Testing for Rating Electrically Driven Unitary Air-Conditioning and Heat Pump Equipment" ("ASHRAE Standard 37"). *Id.* Additionally, DOE amended the PTAC and PTHP test procedures to specify an optional break-in period; explicitly require that wall sleeves be sealed; allow for the pre-

filling of the condensate drain pan; require that measurements of cooling capacity be conducted using electrical instruments accurate to ± 0.5 percent of reading; and require testing with 14-inch deep wall sleeves and the filter option most representative of a typical installation. *Id.* at 80 FR 37149.

AHRI published AHRI Standard 310/380-2017, “Packaged Terminal Air-Conditioners and Heat Pumps” (“AHRI 310/380-2017”) in July 2017. The 2017 version of the standard updated and superseded AHRI Standard 310/380-2014. The 2017 version of the standard incorporated DOE’s additional PTAC and PTHP test procedure specifications listed above. The DOE test procedures for PTACs and PTHPs are consistent with AHRI 310/380-2017.

ASHRAE most recently updated Standard 90.1 in 2019. In the 2019 update, ASHRAE updated the AHRI 310/380 reference to the 2017 edition. As discussed, the DOE test procedures for PTACs and PTHPs are consistent with AHRI 310/380-2017. Clear and convincing evidence is required for DOE to adopt other procedures. (42 U.S.C. 6314(a)(4)(A))

Current Market

Over the past five years, several manufacturers have introduced PTAC and PTHP models that are designed to take outdoor air into the unit, dehumidify the outdoor air, and introduce the dehumidified outdoor air to the conditioned space. These models are commonly referred to as “make-up air PTACs” or “make-up air PTHPs.” The test procedures for PTACs and PTHPs referenced in ASHRAE Standard 90.1 do not specify how to measure the energy use associated with dehumidification of makeup air transferred through the test unit, nor do they account for the additional conditioning required for this makeup air.

Additionally, over the past five years, several PTAC and PTHP models have been introduced to the market that incorporate variable-speed compressors and are capable of part-load operation. The test procedures for PTACs and PTHPs referenced in ASHRAE Standard 90.1 do not specify how to measure the energy use associated with part-load performance of the test unit.

II. Request for Information

DOE is publishing this RFI to collect data and information during the early assessment review to inform its determination of whether to adopt ASHRAE 90.1-2019 in the absence of clear and convincing evidence that would justify the adoption of procedures other than those referenced in ASHRAE 90.1-2019. *See* 42 U.S.C. 6314(a)(4)) Accordingly, DOE has identified specific issues on which it seeks input to aid in its analysis. DOE also welcomes comments on other issues relevant to its early assessment that may not specifically be identified in this document.

A. Energy Use Measurements

DOE's current test procedures for PTACs and PTHPs are codified at 10 CFR 431.96. The test procedures measure energy use by operating the equipment in cooling-only and heating-only modes at standard rating conditions per AHRI Standard 310/380-2014 and measuring the power input to the equipment in watts. The test metric for the cooling efficiency is the Energy Efficiency Ratio ("EER"), which is the ratio of the produced cooling effect of the PTAC or PTHP to its power input, expressed in Btu/watt-hour, and measured at standard rating conditions. The test metric for the heating efficiency is the Coefficient of Performance ("COP"), which is the ratio of the produced heating effect of the PTHP to its power input, expressed in watts/watts, and measured at standard rating conditions.

Issue 1: DOE seeks comment on whether the test procedure requirements in ASHRAE 90.1-2019 (*e.g.*, instrumentation testing configurations/specifications, calculation methodologies) accurately measure energy use without adding undue burden to the test procedure.

Issue 2: DOE seeks information on the need for DOE’s test procedure for PTACs and PTHPs to specify how to measure the energy use associated with dehumidification of “makeup air” for PTAC and PTHP models designed to take outdoor air into the unit, dehumidify the outdoor air, and introduce the dehumidified outdoor air to the conditioned space.

Issue 3: DOE seeks information on the need for DOE’s test procedure for PTACs and PTHPs to specify how to measure the energy use associated with part-load operation.

Issue 4: DOE requests information on whether any existing industry test procedures may be used to measure the energy use associated with “makeup air” or part-load operation of PTACs and PTHPs.

B. Representative Average Use Cycle

The current DOE test procedure for PTACs and PTHPs, adopted in 2015, was reasonably designed to measure energy use during a representative average use cycle. Specifically, the test procedure adopted in 2015 provides instructions to measure the energy use of the equipment in cooling and heating modes at standard rating conditions, as prescribed in AHRI Standard 310/380-2014.

Issue 5: DOE seeks comment on whether ASHRAE 90.1-2019 and the references therein is reasonably designed to measure energy use during a representative use cycle.

Issue 6: DOE also seeks comment on “make-up air” and part load operation as they relate to a representative average use cycle for PTACs and PTHPs.

III. Submission of Comments

DOE invites all interested parties to submit in writing by [INSERT DATE 75 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*], comments and information on matters addressed in this notice and on other matters relevant to DOE's consideration of whether DOE should adopt the most recent version of ASHRAE 90.1, which makes no substantive changes to DOE's test procedures, or whether there is clear and convincing evidence that ASHRAE 90.1-2019 is not reasonably designed to measure energy efficiency or energy use during a representative average use cycle or period of use; and is not unduly burdensome to conduct.

Submitting comments via <http://www.regulations.gov>. The <http://www.regulations.gov> web page will require you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. If this instruction is followed, persons viewing

comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to <http://www.regulations.gov> information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (“CBI”)). Comments submitted through <http://www.regulations.gov> cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through <http://www.regulations.gov> before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that <http://www.regulations.gov> provides after you have successfully uploaded your comment.

Submitting comments via email, hand delivery/courier, or postal mail. Comments and documents submitted via email, hand delivery/courier, or postal mail also will be posted to <http://www.regulations.gov>. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information on a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information each time you submit comments, data, documents, and other information to DOE. If you submit via postal mail or hand delivery/courier, please provide all items on a CD, if feasible, in which case it is not necessary to submit printed copies. No facsimiles (“faxes”) will be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English and free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters’ names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. According to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery/courier two well-marked copies: one copy of the document marked confidential including all the information believed to be confidential, and one copy of the document marked “non-confidential” with the information believed to be confidential deleted. Submit these documents via email to PTACHP2019TP0027@ee.doe.gov or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

DOE considers public participation to be a very important part of the process for developing test procedures and energy conservation standards. DOE actively encourages the participation and interaction of the public during the comment period in each stage of this process. Interactions with and between members of the public provide a balanced discussion of the issues and assist DOE in the process. Anyone who wishes to be added to the DOE mailing list to receive future notices and information about this process should contact Appliance and Equipment Standards Program staff at (202) 287-1445 or via e-mail at *ApplianceStandardsQuestions@ee.doe.gov*.

Signing Authority

This document of the Department of Energy was signed on November 25, 2020, by Alexander N. Fitzsimmons, Deputy Assistant Secretary for Energy Efficiency, Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, D.C., on December 1, 2020

Treena V. Garrett
Federal Register Liaison Officer,
U.S. Department of Energy

[FR Doc. 2020-26722 Filed: 12/7/2020 8:45 am; Publication Date: 12/8/2020]